UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
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May 20, 2008

Mr. A. BUDUO III
Captain, U.S. Navy
Commander
Naval Surface Warfare Center Panama City Division
110 Vernon Avenue
Panama City, FL 32407-7001

Attention: Mrs. Carmen Ferrer

Subject: Draft Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) for proposed new and increased mission activities within the NSWC PCD Study Area, Panama City, Florida.

Dear Mr. BUDUO:

Pursuant to both the Clean Air Act (CAA) § 309 and National Environmental Policy Act (NEPA) § 102 (2)(C), EPA has reviewed the draft EIS/OEIS proposal to improve NSWC PCD's capabilities to intensify current and add new air, surface, subsurface, sonar, electromagnetic, laser, ordnance and projectile firing–related research, development, test and evaluation (RDT&E) activities. Those activities associated with mine countermeasure systems operations in the coastal, near and offshore marine environment in the geographic area identified as of St. Andrew Bay and three military warning areas (W-155, 151, & 470) off the Florida Gulf Coast: Escambia, Santa Rosa, Okaloosa, Walton, Bay, Gulf, Franklin, Wakulla, Jefferson, Taylor and Dixie Counties.

To fulfill EPA's NEPA and related CAA § 309 responsibilities, EPA has enclosed its review comments of the above identified draft EIS/OEIS and is providing a rating of EC-2 (environmental concerns, additional information requested). The explanation of EPA's rating system is also enclosed.

Regarding the environmental concern aspects of EPA's rating, the EIS as written does not discuss what the background underwater noise levels are in the Study Area and how background compares with the "noise" associated with Proposed Action's sonar operations or "ops" (and other relevant operations, e.g., ordnance, surface vessel, etc.), nor what the potentially "annoying" noise levels are (e.g., marine species most affected). Additionally, the EIS states that studies indicate that **most** of the marine fish studied are hearing "generalists" and have their best hearing sensitivity at or below 0.3 kHz. The EIS does not define what "**most**" means in this context. Similarly, the EIS states that "**few**" marine hearing "specialists" can detect sounds up to 4.0 kHz and some can detect above 120 kHz and for one of these species a gap in sound "hearing" exists between 3.2 kHz – 12.5 kHz. In this regard, we have two comments: first, the EIS does not define what "**few**" means in this context and

second, are any of these hearing specialists likely to inhabit the Study Area? Specifically, how will they likely to be affected: how intense will the sonar operations be and when are they likely to occur?

The EIS' language as the EIS states that studies indicate most marine fish are hearing generalists. The EIS should use more precise language -- it is unclear how many species have been studied, how many of the studied fish are generalists versus specialists, and of these how many inhabit the Study Area. Furthermore, the appropriateness of extrapolating from "*fewer than 100 fish species*[1]" to cover the entire 27,000 known fish species is questionable, particularly when Magnum-Stevenson Act (MSA) § 2 broadly defines "fish" to include other aquatic organisms not typically associated with the word, "fish," i.e., mollusks, crustaceans, and all other forms of marine animal & plant life, other than marine mammals and birds.

Second, the EIS provides operational-activity information in terms of hours-per-year, items-per-year and rounds-per-year but provides limited information on the intensity, timing, and location of these operations. For example, what does 7,443 hours of surface operations mean? Are the proposed 1,620 hours of laser operations to be conducted all at once or sporadically through out the year? What does 10,872 "rounds-per-year" mean? Will these rounds be fired all in one place all at one time? Are there certain months of the year when these operations are conducted or certain geographical areas where they conducted? This information is all relevant to determining environmental impacts associated with the proposed action.

Regarding the EIS adequacy rating of "2" (i.e., insufficient information), this draft EIS/OEIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment. There are three issues of concern. First, the EIS should address the gaps in the environmental impacts analysis (i.e., Chapter 4) which prevent it from fully analyzing the Proposed Action's potential impacts at a sufficient level of detail to facilitate meaningful analysis.[2] For example, the environmental impacts information contained in chapter #4 should directly reflect the information regarding the proposed action (chapter #2) and the information provided on the affected environment (chapter #3).

Second, the EIS should clearly demarcate between a conclusion of no impact based on strong supporting evidence versus one based on the absence of scientific information is important.[3] Identifying the "unknown" allows for research priority setting and project design to fill in identified knowledge gaps, which is part of the NEPA's purpose in "informing the public and the decision maker." Under this issue are two sub issues: one is the identification of when science/data/ environmental information does not exist or is too limited to determine whether a significant environmental impact (or environmental harm) will occur. The second issue is that any absence of science/data/environmental information should not be portrayed to substantiate findings of no environmental significant impact (or harm).

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[1] Line #39, p. 4-45.

[2] See heading: ** ***Gaps in the Environmental Impacts Analysis*** ** for specific details.

[3] See heading: ** ***Identify the Limitations of the Best Available Scientific Information*** ** for specific details.

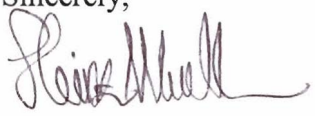
Third, the collection of relevant environmental impacts information as part of the RDT&E testing data collection used to determine operations performance is another EPA concern.[4] For example buried in Section 4.3.1.1 "Surface Operations" the EIS states, "[n]*either regulations nor scientific literature provide criteria for determining the significance of the potential effects of the NSWC PSD activities.*[5]" This statement likely applies to all of the Proposed Action's operations.

NSWC PSD has been in the mine countermeasures testing and development business in the Study Area and will likely continue in the future. Yet, this EIS/OEIS lacks the environmental studies and associated environmental impacts-type information associated with past and ongoing mine countermeasures testing and development activities. This information is relevant to this EIS'/OEIS' cumulative effects analysis and to fulfilling NEPA's EIS goals and EIS requirements.

In summary, EPA finds that the DEIS lacks specificity in several areas that should be clarified in the FEIS. These areas include better disclosure of the environmental impact information associated with its operations, e.g., sonar and fish hearing, increased detail on the specific geography and season for the implementation of the various operations, closing the gaps in the environmental impacts analysis, clear demarcation between a conclusion of no impact based on strong supporting evidence versus one based on the absence of or limited scientific information and the absence of science/data/environmental information should not be portrayed to substantiate findings of no environmental significant impact, and last, the operations performance should include an environmental impacts component.

The challenge we all face is how can the Federal Government use all practicable means, as outlined in NEPA §101, to improve and coordinate federal plans, functions, programs, and resources such that the Nation may fulfill the responsibilities of each generation as trustee of the environment for succeeding generations. Consequently, EPA's enclosed comments have been provided to assist the Department of the Navy in meeting this challenge. If you wish to discuss this matter further, Beth Walls (404-562-8309 or walls.beth@epa.gov) will serve as EPA's initial point of contact.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office

Enclosure - 2

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[4] See heading: ***Environmental Information Collection as part of RDT&E testing Operations*** for specific details.

[5] Line # 29-30, p. 4-39.

EPA Comments to the Draft Environmental Impact Statement (EIS) /Ocean Environmental Impact Statement (OEIS) for the Naval Surface Warfare Center Panama City Division (NSWC PCD) Mission Activities.

General FEIS/FOEIS Recommendations

- Strengthen the Environmental Effects/Impacts chapter (chapter # 4). This chapter is the most important part of the EIS/OEIS. It needs more scientifically-substantiated conclusions, and clear demarcations where the science/data/environmental information is lacking or so limited that making environmental-impacts related conclusions/determinations is impossible. Moreover, the NEPA analysis and findings should not be limited by or based solely on ESA or MMPA-designated species impacts as defined by the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA).

  For example, apply the information provided in both the Operations (chapter # 2) and Affected Environment Chapter (# 3) to the Environmental Consequences Chapter (# 4). The described environmental impacts are generalized without relating to the specifics of the Study Area's environment, ecosystem, and biota.

- Expand existing operations performance-related environmental-data collection to include operations' environmental-impacts information so this information can be used in this and the next EIS/OEIS.

- Be more precise in language use.

- Be more direct in language use, for example the EIS/OEIS states that the small levels of electrical current generated (roughly equivalent to two car batteries) represents no danger of electrocution.[1] The reader must assume this is associated with OASIS and is relevant to the statement that OASIS is unlikely to electrocute or be a source of lethality for biological resources (i.e., fish) near the electrode. Unclear from first paragraph[2] that the EIS/OEIS is discussing OASIS. But since OASIS is mentioned for the first time in conjunction with the electrode discussion, (i.e., OASIS is unlikely to electrocute or be a source of lethality for biological resources) the reader must then assume OASIS is the topic of discussion. EPA recommends the FEIS/FOEIS be more direct and minimize the reader's need to make assumptions and the opportunities for making inappropriate assumptions.

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[1] Section 4.3.3.3.1 on p. 4-51.
[2] See lines 3 – 19.

- The references and studies cited in the EIS/OEIS should be made available to the reviewer to allow the reviewer complete access to the materials used to support the Navy's final position, i.e., FONSI. The reviewer should not be expected to accept the Navy's interpretation of its cited studies without some degree of verification. Acceptable availability would be to provide an electronic copy of these studies via a Cd Rom or an Internet address to these studies.

- The EIS/OEIS states that NSWC PCD has developed a website: http://nswcpc.navsea.navy.mil/environmental/eis.asp to provide a forum for the dissemination of materials, data, and notices for this EIS/OEIS.[3] As of 5/14/08 this site was not accessible nor was it accessible from the link, http://www.gomexrangecomplexis.com/, from the web page located at http://nswcpc.navsea.navy.mil/Environment.htm . EPA recommends this be addressed so that this information can be accessed or remove this statement from the FEIS/FOEIS.

- Clarify the statement: actions that fall outside the scope of this document (i.e., those actions that may increase the effects or create new effects), would be addressed separately as they are proposed.[4] It is unclear from the text provided what this means in terms of the EIS/OEIS and the proposed action.

- Because of the current escalating concerns regarding the potential for human impacts toward accelerating climate change, the recommendation is being made that DON consider estimating its CO_2 emissions and investigating possibilities for incorporating measures to reduce or offset its CO_2 emissions.

- Because of the current escalating concerns over increasing demands on limited existing energy sources and the call for the development and use of alternative energies, the recommendation is being made that DON discuss its energy strategies for addressing these issues. EPA also recommends incorporating into the EIS/OEIS a direct discussion of energy efficiency measures/activities/opportunities. NEPA is the basic national charter for environmental protection and important issues of environmental protection and quality include energy and resource use, efficiency, and conservation. NEPA's regulations[5] specifically require addressing in the discussion of environmental consequences: energy requirements and conservation potential of various alternatives and mitigation measures and natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.[6]

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[3] P. 1-11.
[4] Line #26-27, p. 1-(10-11).
[5] 40 CFR 1502.16(e) & (f).
[6] More information can be found from EPA's document, *Energy Efficiency Reference for Environmental Reviewers* (1994) prepared by Science Applications International Corporation under EPA Contract 68-W2-0026, which can be found at www.nepa.gov.

Specific Issues/Concerns

Alternatives

NEPA regulations require the EIS/OEIS to describe alternatives that reflect the development a range of alternatives that could reasonably achieve the identified need of the proposed action. This range of alternatives needs to be sufficient to address issues and suggest an environmentally preferred alternative. It is to NEPA §101 that the "environmentally preferred" alternative responds.

This draft EIS'/OEIS' alternatives analysis considered three alternatives: 1) no action as in current activities, 2) increasing the level of current activities and adding new activities (i.e., Alternative #1), and 3) increasing three-fold the activities described in 2) above (i.e., Alternative #2). The above identified range of alternatives may be too narrow to sufficiently explore environmental issues and to suggest an environmentally preferred alternative.

For example, the EIS'/OEIS' alternatives do not explore the location and timing aspects to the implementation of its activities, i.e., avoiding potential impacts to spawning, juveniles, and adult marine, bird, and other affected (non ESA and MMPA designated protected) species at certain life-cycle critical times. While the EIS/OEIS attempts to address the temporal-spatial (seasonal and geographic) issue,[7] it does so on a limited basis: it is tailored to MMPA and ESA-designated species when NEPA's scope is much broader than that of the MMPA and ESA. Additionally, the protective measures appear to have caveats to their application, i.e., "other identified areas **may** be avoided due to potential effects to biological, economic, or social resources." However, consideration of potential effects to biological, economic, or social resources are the factors that should be part of the EIS'/OEIS' alternatives-development analysis.

EPA recommends the FEIS/OEIS discuss alternatives that consider the location and timing aspects to the implementation of its various operational activities. Of interest is whether there are certain locations and timing (e.g., season) in the Study Area that are the best environmental alternative(s) for conducting the ordinance, projectile firing, sonar, and/or electromagnetic field (EMF) operations. For example, the hypothetically best environmental alternative for conducting ordnance operations might be in the deepest part of the Study Area that is greatest distance from any designated marine protected area and estuaries when marine mammals are not known to be migrating, which hypothetically might be W-151's southern border outside the DeSota Canyon Closed Area.

The Affected Environment

- **Ecosystem assessment lacking:** the EIS'/OEIS' environmental impacts analysis discusses only the impacts to individual organisms, in lieu of the actual near and offshore marine

[7] Section 5.11 Avoidance Areas, p. 5-14 and Figure 5-2 p. 5-16.

ecology, e.g., trophic levels or the food chain. EPA recommends the FEIS/FOEIS discuss the near and offshore benthic and pelagic invertebrate communities.

> The organisms selected for evaluation were primarily either those deemed threatened or endangered species (e.g., ESA & MMPA). The protective measures for marine mammals and sea turtles do not ensure a functioning near and offshore ecosystem, which provides the valuable ecosystem service: nursery to the GOM's fisheries on which the ESA & MMPA designated species depend upon for their survival. NEPA §101's emphases is on using all practicable means to create and maintain conditions where man and nature can coexist in productive harmony and the attainment of the widest range of beneficial uses of the environment without degradation.
>
> For example, the EIS/OEIS speaks to "any "***small level***" of mortality caused by the NSWC PSD RDT&E activities involving detonations will most likely not be significant to the population as a whole given the "***localized effects***" of a small amount of NEW used in territorial waters.[8]" While the total invertebrate populations may not be seriously affected, however the ecosystem or communities might be impacted. Because the environmental analysis lacks a community-ecosystem assessment focus, the effects of a small level of mortality to a certain level in the food chain, e.g., an entire invertebrate species serving a specific ecosystem purpose (e.g., trophic level) could have devastating effects up to the food chain, including birds and marine mammals. This issue is not discussed in the EIS/OEIS.
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> EPA recommends the FEIS/FOEIS define "small level" and "localized effects" to invertebrate populations be defined (e.g., which species, what degree of harm or mortality, and this mortality may affect the ecosystem they exist, e.g., are they known to be a "keystone" species or serve an ecosystem function that may be disrupted.

- **Anthropogenic sources**: the anthropogenic-sources information lacks specificity. EPA recommends the FEIS/FOEIS discuss the specifics regarding what are the primary anthropogenic sources in the Study Area, e.g., commercial traffic: fisheries, industrial, retail, military? What are their corresponding noise signatures and other background conditions associated with the anthropogenic sources? How does the proposed action compare and contrast with the anthropogenic source background conditions? Additionally, this type information should be provided for the proposed sonar, ordnance, and surface vessel operations.

- **Special biological areas:** this section does not discuss the Crystal River National Wildlife Refuge (NWR) and only mentions the Big Bend Sea Grass Aquatic Preserve without describing both as foraging habitat for (and therefore attracting) manatees and sea turtle, which has implications to the proposed action.

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[8] Line #4-6, p. 4-43.

The Crystal River NWR may support the largest Florida manatee populations and provides critical habit for approximately 25% of the Nation's endangered manatee population.[9] Furthermore, the Crystal River/Kings Bay area is one of two areas supporting growing Florida manatee populations.[10] In warmer months the manatees spend most of their time at sea while from October – March the colder water drives them inland to find warm water.[11]

EPA recommends the FEIS/FOEIS add the Crystal River National Wildlife Refuge (NWR) and provide more information on the Big Bend Sea Grass Aquatic Preserve to its "affected environment" and "environmental consequences" discussions.

- **Special biological areas:** this section does not discuss that St. Andrews Bay's sea grass beds contain sea grass species that constitute a large portion of mantees' diets, i.e., shoal, manatee, turtle, and widgeon grasses and that sea grass beds are important to manatee feeding sites. EPA recommends this information be added to the FEIS/FOEIS.

- **Special biological areas:** the EIS/OEIS describes the specially designated marine managed areas (i.e., De Soto Canyon Closed Area, Florida Middle Grounds, Madison-Swanson Spawning Site, Steamboat Lumps Spawning Site, and the Reef Stressed Areas) within the Study Area but does not elaborate on what the purpose of these areas and how the Proposed Action will affect these purposes and areas. EPA recommends this information be added to the FEIS/FOEIS.

Marine Mammals: the EIS'/OEIS' statement that sightings of the endangered Florida manatee rarely occur west of the Wakulla River[12] conflicts with the position that summer sightings in Alabama are common and that during summer months they may be found as far west as Texas.[13] Furthermore, the introduction of power plants and paper mills in northern Florida, Louisiana, and Texas have given manatees an opportunity to expand their winter range to areas not previously frequented.[14] EPA recommends this information be added to or clarified in the FEIS/FOEIS.

- **Sea Turtles:** this section correctly states that the Hawksbill turtle does not nest in the Study Area but Table 3-15 is unclear as to whether it occurs in the Study Area. Section 3.4.8 generally indicates that it is one of five species that occur along the eastern GOM continental shelf.[15] EPA recommends this information be clarified in the FEIS/FOEIS.

- **Sea Turtles:** this section did not mention or provide turtle nesting data for the other Florida counties (Wakulla (St. George Island), Jefferson, Taylor, Dixie, Levy, Citrus, Hernando,

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[9] http://fws.gov/crystalriver .
[10] http://www.savethemanatee.org/myths.html .
[11] http://www/scubarystalriver.com/manateefacts.html .
[12] Section 3.4.7 on p. 3-29.
[13] http://www.savethemanatee.org/manfcts.htm .
[14] http://www.saj.usace.army.mil/regulatory/assets/docs/species/manatee/manateeInfo.pdf .
[15] P. 3-31.

Pasco, & Pinellas) that border the eastern edge of the Study Area, i.e., W-470. Moreover the Big Bend Seagrass Aquatic Preserve encompasses the coast of the four western counties mentioned above and is a forging area for both turtles and manatee. EPA recommends this information be addressed in the FEIS/FOEIS.

- **Artificial Reefs:** the EIS/OEIS provides confusing information regarding the Alabama Artificial Reef Program. First, it is unclear as to why the Alabama reefs are not included in the EIS/OEIS when they appear to be included in Figure 3-8 despite text stating otherwise.[16] Second, are just the "inshore reefs in Mobile Bay, Bon Secour Bay, and Mississippi Sound close to shore and inside the barrier reef system and not a factor in the military operations? Or are all the reefs outside of and including the barrier reef system considered not to be a factor?[17]

  And last, both Figure 3-8 and the associated Artificial Reef Text[18] is unclear in explaining "Artificial Reef General Permit Area." For instance, the text[19] states that Alabama maintains five artificial-reef general permit areas, which implies that Alabama permits them as part of its artificial reef program. However, Figure 3-8 depicts five additional areas off the Florida coast. Should the uneducated reader assume (incorrectly) that Alabama permits these or the USACOE? Because the text[20] that actually speaks to the USACOE as regulating artificial reef construction is silent regarding Artificial Reef General Permit Area, it appears that is part of the Alabama Reef Program and that only those reefs outside these General areas require USACOE permits. If that is the case, how does Alabama maintain Artificial Reef General Permit Areas off the FL coast?

  EPA recommends the above information be clarified in the FEIS/FOEIS.

- **Birds:** the EIS/OEIS indicates that one of the two types of laser operations is the air-to-water mine identification but does not discuss potential impacts to birds, which fly and float on the water surface, from these laser operations. EPA recommends this issue be addressed in the FEIS/FOEIS.

- **Fisheries:** EPA recommends the FEIS/FOEIS address how the Proposed Action's operations impact the Gulf of Mexico Fishery Management Council's seven fishery management plans for coastal migratory pelagics, spiny lobster, reef fish, shrimp, stone crab, red drum, and coral/reefs and the designated marine management areas?

- **MMPA & ESA Coordination:** the EIS/OEIS states that the DON has initiated ESA § 7 and MMPA § 101 consultation with NOAA. However, the environmental information related to this process is necessary for EPA to fulfill its CAA § 309 responsibilities (e.g., reviewing and commenting on the adequacy of the environmental analysis and the proposed federal action's environmental impacts). EPA recommends this information be provided in the FEIS/FOEIS.

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[16] lines #17-18 on p. 3-44.
[17] Consistent with text in line #33-34 on p. 3-1 under heading 3.1. Affected Environment, which states that activities would not be conducted along the coastlines or in estuaries in Alabama.
[18] pp. 3-43 – 44.
[19] line # 7-8.
[20] under the 3.5.3 Artificial Reefs heading.

Environmental Impacts

- **Environmental consequences:** the EIS/OEIS states that surface, subsurface, air, laser, and electromagnetic operations would result in no effects to any one of the areas addressed including physical, biological, and anthropogenic sources.[21] Is it accurate to say "no effect" or is "no effect" presumed due to absence of relevant science, data, and environmental information. If the latter, then this should be clearly stated. EPA recommends the FEIS/FOEIS clarify this issue.

- **Sonar Operations:** the EIS/OEIS is unclear that the towed arrays are on the surface or near the surface, as opposed to the sea-floor bottom.[22] EPA recommends the FEIS/FOEIS contain a statement to that effect.

- **Sonar Operations:** EPA recommends the FEIS/FOEIS discuss how does the Proposed Action's sonar operations compare with the background sonar use associated with other anthropogenic sources, i.e., commercial and private fisheries and academic sonar use?

- **Sonar Operations:** the EIS/OEIS does not discuss what the background underwater noise levels are in the Study Area and how background compares with the "noise" associated with Proposed Action's sonar ops (and other relevant operations, e.g., ordnance, surface vessel, etc.). Nor what the potentially "annoying" noise levels are (e.g., marine species most affected). EPA recommends the FEIS/FOEIS address the above.

- **Sonar Operations - fish:** the EIS/OEIS states that studies indicate that **most** of the marine fish studied are hearing generalists and have their best hearing sensitivity at or below 0.3 kHz.[23] EPA recommends the FEIS/FOEIS define what "**most**" means in this context.

  Sonar Operations - fish: the EIS/OEIS states that "**few**" marine hearing "specialists" can detect sounds up to 4.0 kHz and some can detect above 120 kHz and for one of these species a gap in sound "hearing" exists between 3.2 kHz – 12.5 kHz.[24] Two comments: first the EIS/OEIS does not define what "**few**" means in this context. And second are any of these "hearing specialists" likely to inhabit the Study Area? How will they likely to be affected? E.g., how intense will the sonar operations be? When are they likely to occur? EPA recommends the FEIS address the above.

- **Sonar Operations - fish:** care is needed with the EIS'/OEIS' language as the EIS/OEIS states that studies indicate most marine fish are hearing generalists.[25] The EIS/OEIS should be more precise with its language, e.g., most (define this term) of the species studied, i.e., fewer (define this term) than 100 species of the 27,000 known fish species, appear to be hearing generalists. This statement is different than simply stating "most marine fish" and far less misleading.

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[21] p. 2-16.
[22] P. 2-6, line # 1-33.
[23] Section 4.3.3.2, p. 4-45.
[24] Section 4.3.3.2, p. 4-45.
[25] Line #39, p. 4-45.

Additionally, the appropriateness of extrapolating from fewer than 100 fish species to cover the entire 27,000 fish species is questionable, particularly when MSA § 2 broadly defines "fish" to include other aquatic organisms not typically associated with the word, "fish," i.e., mollusks, crustaceans, and all other forms of marine animal & plant life, other than marine mammals and birds.

Another example, "*however, **most** marine fish species are not expected to* [be] *able to detect sounds in the mid-frequency range of the sonars used in the proposed action.*"[26] The [be] indicates that "be" is missing and is necessary to complete this sentence and "most" needs defining and put in context of less than 100 fish species studied of a known 27,000 fish species.

EPA recommends the FEIS/FOEIS clarify and address the above.

- **Sonar Operations - fish:** the EIS'/OEIS discussions of the sensitive species (e.g., herring and clupeids) are unclear as to whether these species are common in the study area and if so what protective measures (e.g., the use of low-frequencies and ultrasound)[27] might be taken to clear the operational area prior to testing.

The EIS/OEIS only mentions ultrasound detecting clupeids (such as shad and menhaden) with distributions overlapping the NSWC PCD Study Area may have similar reactions to mid-frequency active sonar because of their similarities in hearing sensitivity – good information but where are these sensitive species in the Study Area and where are they in relationship to the Proposed Action's operations? Can these sensitive-species-dominated areas be avoided? What other fish known to inhabit the Study Area are known to be hearing "sensitive" or "generalists," and of the known fish to inhabit the Study area, which ones have "unstudied" hearing? EPA recommends the FEIS/FOEIS address the above identified issues.

- **Sonar Operations - fish:** the EIS/OEIS states the only experiments showing mortality in fish have been investigations on juvenile hearing when exposed to intense mid-frequency.[28] However, it does not define "mid-frequency" and does not discuss the potential environmental impacts associated with the specifics of the Proposed Action's proposed "mid frequency" sonar use as described in Tables 2-1, 2, & 3, in the Study Area. EPA recommends the FEIS/FOEIS address these issues.

- **Sonar Operations - fish:** the EIS/OEIS states that individual juvenile fish with a swim bladder resonance in the frequency range of the operational sonars, and especially hearing specialists such as some clupeid species may experience injury or mortality. But the EIS/OEIS does not describe how this is relevant to the Study Area.

In other words, the EIS/OEIS does not apply the information provided in Chapters 2 (proposed action specifics) and to the affected environment (Chapter 3) to determine the

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[26] Line #10, p. 4-47.
[27] Line #16-18 on p. 4-48.
[28] Line # 12, p. 4-46.

environmental impacts (i.e., Chapter 4). This is a reoccurring problem throughout Chapter 4 for all the Proposed Action's operations. EPA recommends the FEIS/FOEIS address the above identified issues.

- **Electromagnetic Operations:** the distinction should be made that previous research focused on undersea cables and chronic, continuous, and low level EMF emissions and contrasted with the EMF specifics of the proposed action. Moreover it is unclear what the Proposed Action's EMF effects may have on (studied or unstudied) sensitive species, e.g., mating and reproduction or can EMF (and sonar) operations facilitate aggressive behaviors, i.e., shark attacks? EPA recommends the FEIS/FOEIS address the above identified issues.

- **Projectile Operations:** the EIS/OEIS speaks to using "rounds" and "projectiles" but does not describe their size, volume, and the projected surface area of the sea floor in terms of communities affected (e.g., near or offshore benthic invertebrates that should be identified in the "affected environment" chapter) that could be covered by the spent portion of these rounds.

  Additionally, the EIS/OEIS speaks to mining ammunition from the sea floor but does not discuss the potential environmental impacts of the mining or describe the mining action in any detail.[29] EPA recommends the FEIS/FOEIS address the above identified issues.

- **Operational-activity information:** the EIS/OEIS provides operational-activity information in terms of "*hours-per-year*," "*items-per-year*," and "*rounds-per-year*" but provides limited information on the intensity, time, and location of these operations.

  For example, is the 244 hours of laser operations under the No Action Alternative conducted every day of the year? Or are there certain months of the year when these operations are conducted? Another example, are the laser operations conducted through out the Study Area or are they confined to a certain geographical area? Similarly for the ordnance operations: "*rounds-per-year*," will these be fired all in one place at one time? How many hours are involved with firing 3,624 rounds? Lastly, will these rounds be collected or left on the seafloor for marine scavengers to bioaccumlate these rounds and associated pollutants and put them into the food chain, e.g., the potential aquatic version of the "condor (bird) lead" issue?

  EPA recommends the FEIS/FOEIS address the above identified issues.

The Protective Measures

- EPA applauds the inclusion of these protective measures in the draft EIS/OEIS. It notes they are primarily targeted to ESA & MMPA-designated species and does not consider communities of interest and the important food chain that supports the ESA & MMPA-designated species. The issue of concern is larger than "habitat" protection and touches upon

[29] Section 4.2.4.2, p. 4-37.

the rationale for creating EFHs and Marine Management Areas. Hence, EPA's earlier recommendations that the FEIS/FOEIS include alternatives that explore environmentally preferred alternates for each of the proposed action's operations to identify likely impacts to the near and offshore marine ecology, which might be addressed in an expanded version of this topic.

- This section speaks to using visual surveys using people located in the highest points of ships and in airplanes that focus on surface water sightings of actual marine mammals and sea turtles, or indicators for their potential presence, e.g., presence of large *Sargassum* rafts and large concentrations of jelly fish (sea turtle indicators) and large flocks of birds and schools of fish (marine mammal indicators).[30] Would the use of "fish finder" type sonar operated from small-craft operations an option to identify submerged marine life (e.g., whales and turtles and large schools of fish, or large fish schools) that may not surface and therefore not be identified in the visual surveys nor be in the vicinity of the targeted indicators but in the vicinity of potential ordnance and projectile firing operations?

- The proposed protective measures attempt to address ordnance operations effects on Gulf sturgeon migration from fresh to GOM waters during October and November, but does not (and EPA recommends that the FEIS/FOEIS) address general manatee migrations from GOM waters to inland waters for the winter months and from inland waters to GOM waters for the summer months. Moreover these seasonal-transitional manatee migrations may be affected by more than the proposed action's ordnance operations. Furthermore, watercraft strikes tend to be the largest contributing factor to manatee mortality and the preferred alternative proposes 7,433 hours per year of surface vessel operations, when a 365-day year has 8,544 hours.[31]

General Comments, Concerns, & Issues

*** Gaps in the Environmental Impacts Analysis ***

Imprecise Language

Concern exists over numerous instances of imprecise use of language, particularly in the Environmental Effects/Impacts sections to substantiate the Navy's environmental impact findings. A few examples are identified below to illustrate this concern. EPA recommends that the FEIS/FOEIS define its generalities and be clear in its word choices.

- In the sonar operations environmental effects upon fish discussion, the EIS/FOEIS states that studies indicate that "**most**" of the marine fish studied are hearing generalists[32] without defining "**most.**" Same is true for "**few**" in the statement: "**few**" marine hearing "specialists"

[30] Section 5.10 on p. 5-12.
[31] http://myfwc.com/whatsnew/08/statewide/News_08_X_07ManateeDeaths.htm
[32] Section 4.3.3.2, p. 4-45.

can detect sounds up to 4.0 kHz, and best available fish hearing data exists for "**fewer**" than 100 of the 27,000 species of fish.[33] The use of "**most**" and "**few**" fails to convey a sufficient level of detail to facilitate meaningful analysis.

Additionally the statement, "*however, most marine fish species are not expected to* [be] *able to detect sounds in the mid-frequency range of the sonars used in the proposed action,*"[34] is misleading as written. Best available fish hearing data exists for fewer (needs to be defined) than 100 of the 27,000 species of fish and suggest that for these studied fish, the preponderance (needs to be defined) of fish hearing occurs below 1 kHz. The EIS/OEIS should be more precise with its language, e.g., what number of fish species studied is not expected to detect sounds in the mid-frequency range (will they be able to detect high-frequency sounds? Is the answer known?). Do these fish inhabit the Study Area?

EPA recommends that the FEIS/FOEIS address all similar examples to the above.

- The EIS/OEIS states that RDT&E activities "***typically***" occur "***well seaward*** of estuarine and near shore environments.[35]" The language "**typically**" and "**well seaward**" are imprecise and fail to convey a sufficient level of detail to facilitate meaningful analysis. EPA recommends that the FEIS/FOEIS define the above generalities and all similar ones that are not identified in these comments.

- The EIS/OEIS speaks to RDT&E activities conducted in the near shore environment may "***temporarily***" increase "**minor**" wave action in estuarine areas.[36] Sediment suspension will be "***temporary***" and "***local.***[37]" How are these terms defined? Seconds? Feet? The language is imprecise and fails to convey a sufficient level of detail to facilitate meaningful analysis. EPA recommends that the FEIS/FOEIS define the above generalities and all similar ones that are not identified in these comments.

- The EIS/OEIS speaks to "any "***small level***" of mortality caused by the NSWC PSD RDT&E activities involving detonations will most likely not be significant to the population as a whole given the "***localized effects***" of a small amount of NEW used in territorial waters.[38]"

However, "***small level***" and "***localized effects***" lack a sufficient level of detail to facilitate meaningful analysis. Because the mortality is undefined, it is difficult to ascertain impacts to the ecosystem and its food chain see heading, "**Ecosystem assessment lacking**" in the "*Affected Environment*" section below. EPA recommends that the FEIS/FOEIS define the above generalities and all similar ones that are not identified in these comments.

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[33] Section 4.3.3.2, p. 4-45.
[34] Line #10, p. 4-47.
[35] Line #19-20, page 4-39.
[36] Line #33 – 34, p. 4-39.
[37] Line #17 – 18, p. 4-40.
[38] Line #4-6, p. 4-43.

- In its discussion of water quality effects, the EIS states that "currently there are no **ecological** criteria for each constituent in non-territorial waters.[39]" The way the section is set up, the reader expects "**water quality**" criteria not ecological. EPA recommends that the FEIS/FOEIS clarify the above.

- Another example is where the EIS/OEIS states, "*Operation of the laser at eye safe levels ensure that damage from laser wavelengths within the visible spectrum (400 – 700 nm) will not occur to the scales.*[40]" EPA recommends that the FEIS clarify this confusing sentence – what does eye-safe levels have to do with scales? Furthermore, eye-safe levels for whom? Fish? Humans?

Specificity and Relevance

This concern based over the absence in the environmental effects discussion (chapter # 4) of the application of the specifics associated with the Proposed Action's various operations (chapter # 2) and the affected environment (chapter #3). Moreover, insufficient operations specifics are provided in any chapter at a sufficient level of detail to facilitate meaningful analysis of potential environmental impacts. Additionally, information provided in the form of studies cited either are not applied or incompletely applied (i.e., compared and contrasted) to the specific facts of the Study Area and the Proposed Action's operations. Consequently, the Environmental Effects discussion contains generalities to substantiate the Navy's environmental impact findings but limited as to specifics regarding the proposed action's actual environmental impacts.

EPA recommends that the FEIS/FOEIS address the issues identified above and illustrated in the following examples.

- One example is the EIS'/FOEIS' application of two generalized statements[41]: 1) approximately 96% of a laser beam projected into the ocean is absorbed, scattered, or otherwise lost and 2) the potential for damage due to exposure to a laser beam below the water's surface decreases as the depth increases into one generalized conclusion: thus the potential for effects will be greatest at the surface and since the majority of the invertebrates live on the sea floor or in the sediment where the energy from a laser bean will be unlikely to reach due to adsorption and scattering there will be no significant impact to invertebrates.

  A concern is the EIS'/OEIS' failure to define the relevant terms used in the generalized statements and omission of the Study Area's specifics. "Ocean" is undefined and it is not compared to the Study Area's specific characteristics. Numerous figures in the EIS/OEIS depict the study area's bathymetry such that it appears the predominant depth is less than 200 meters. Does the above generalized statement apply to water depths of less than 200 meters? Will the laser operations be conducted in water depths less than 200 meters? Furthermore water clarity (i.e., absence of turbidity) also significantly influences the laser beam's ability to penetrate and impact invertebrates.

[39] Line #12, p. 4-34.
[40] Section 4.3.3.4 on p. 4-53 see line #37-38.
[41] Sections 4.3.2.3.2 & 4.3.2.3.3 on p. 4-44 starting with line # 18.

Also relevant is the surface area affected by laser beams (or repeated beams), which could be compared to the overall surface area of the affected sea floor and benthic inhabitants and any repetitiveness of the laser operations (i.e., will the same area be repeatedly affected) to provide the reader better information on the degree of seafloor that may be affected.

As written the EIS/OEIS is unclear as to where and what water depths in the Study Area the laser operations will occur and therefore the EIS'/OEIS' existing discussion is not (and needs to be) relevant to the particulars of the Study Area. Consequently it is unclear how the EIS/OEIS makes the conclusion that there will be no significant impacts to invertebrates. To do this, one has to make a lot of assumptions (which have not been and should be clearly stated) to make the Navy's environmental impacts conclusions.

Another example is the EIS' discussion of electromagnetic field (EMF) studies associated with offshore wind farms.[42] There appears to be an absence in comparison between similar data metrics used in the Proposed Action (e.g., tesla and Gauss metrics) and that used in the offshore wind farm studies (e.g., volts/meter and Hz metrics[43]). Without the use of comparable metrics, it is difficult to compare and contrast between the information provided in the wind farms studies and the Proposed Action to determine potential environmental impacts. In other words, an insufficient level of detail has been provided to facilitate meaningful analysis.

Moreover, the EIS/OEIS does not make the distinction (contrast) between the chronic, continuous, and low emissions nature of the EMF studied with the offshore wind farms with that of the Proposed Action, which might be more acute, episodic, and higher in intensity?

These distinctions may be relevant, even if currently unknown/unstudied, to impacts on the marine biology. In other words, the offshore wind farms EMF generation studies are focused on the specific facts associated with wind farms and not with the Navy's surface-mine-countermeasure-testing related activities and therefore limited in relevance and applicability. The EIS/OEIS needs to inform as to how limited and relevant they are to the Proposed Action.

It is scientifically appropriate to state when impacts are unknown rather than textually leapfrogging from unrelated studies of limited relevance and applicability to an unscientific conclusion of no significant impacts. The NEPA decision maker and public needs to know what is known and unknown and what this status means to the Proposed Action.

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[42] Section 4.3.3.3.1 on p. 4-51. See line # 36 –"*the literature on the effects of EMF to marine species is limited and the majority of studies have focused on permanent infrastructure related to offshore wind farms.*"

[43] Examples include: *Memorandum Addressing Electric and Magnetic Field (EMF) Questions Draft, Cape Wind Energy Project, Nantucket Sound* (August 2005)at www.mms.gov/offshore/PDFs/cwfiles/141.pdf, and *Investigation into the Effects of EMF generated by Offshore Windfarm Cables under Various Conditions*, at http://www.offshorewind.co.uk/Rsearch/ReasarchAreas/ElectromagneticFields/EMFPhase1.aspx.

- In the EIS/OEIS discussion of ordnance operations impacts to fish,[44] it provides threshold information for physical injury to fish and invertebrates from detonations[45] and generalized information on fish impacts, e.g., shock waves associated with underwater use of explosives has the potential to rupture swim bladders and blood vessels, tear fish tissues, and rupture/hemorrhage the spleen, etc., in the proximity of the detonation source.

  The EIS/OEIS explains that the offshore-removal-of-oil-rigs related studies revealed a few generalities: at very close range, underwater explosions are lethal to most fish species regardless of size, shape, or internal anatomy leading to the generalized cause of death: internal bleeding associated with massive organ and tissue damage. At longer range, fish species with gas-filled swim bladders (e.g., snapper, cod, and striped bass) are more susceptible than those without swim bladders (e.g., flounders and eels). Additionally, larger fish may be less susceptible than smaller fish. Open water pelagic fish (e.g., mackerel) may be less affected than reef fish.

  The EIS/OEIS has not taken the above information and applied it such that it is relevant to the Study Area and the Proposed Action. Absent is the application of this information to the specifics associated with the Proposed Action's operations (chapter 2) and the fish known to inhabit the area (chapter 3)? Moreover any estimations of the number of fish killed associated with the oil rig studies, e.g., number associated with the various net explosive weigh categories proposed to be detonated in the Study Area would be useful.

  In other words, an insufficient level of detail has been provided to facilitate meaningful analysis.

Further Clarity Needed to Understand the Proposed Action

It is unclear where and how the various operations are occurring, e.g., the 3-dimension geographic territory: aerial extent, water depth, whether the same areas will be subjected to repeated laser beams, sonar operations, projectile firings, ordnance operations, etc., and whether and how nearshore and/or offshore benthic communities will be affected, birds, fisheries, etc. An exception to this observation is the depth component of the ordnance discussion regarding mine detonation and that discussion does not discuss the geographical where in relation to the different warning areas and SAB. Another example, will sonar operations primarily occur in depths exceeding 200 meters? Will ordnance operations be focused off federally-owned coastal areas and which ones? And where the information is given it is not sufficiently discussed in the environmental impacts chapter.

EPA recommends that the FEIS/FOEIS address the issues identified above.

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[44] Section 4.3.3.5 on page 4-55.
[45] Table 4-21 on p. 4-55.

** *Identify the Limitations of the Best Available Scientific Information* **

Two concerns exist: one is the identification of when science/data/environmental information does not exist or is too limited to determine whether a significant environmental impact (or environmental harm) will occur. The second is that this absence of science/data/environmental information not be portrayed to substantiate findings of no environmental significant impact (or harm).

EPA recommends that the FEIS/FOEIS should clearly inform both the decision maker and the public as to what is or not and clearly indicate whether decisions are being based on unknown information. Where science/data/environmental information do not exist or are too limited to determine whether a significant environmental impact (or environmental harm) will occur, this should be so stated in lieu of making unsubstantiated findings of no significant impact (or harm). To do otherwise, is to fail to meet the NEPA obligation of informing the decision maker and the public.

If the most accurate conclusion is that the environmental impacts the use of laser (or sonar, etc.) within the study area on the invertebrate communities (or fish, turtles, etc.) in the area are unknown. This should be stated and why it is unknown. It is one thing to make a decision based on known science and quite another to make a decision based on unknown science.

To implement NEPA's purpose, a decision maker and the interested public need to know and should be informed as to whether the decision is being made based on known science, the degree of confidence in the science's outcomes/conclusions, and the degree of the science's applicability to the proposed action, or when the science has not been done or lacking or limited and whether the available information is anecdotal. Furthermore, identifying the "unknown" allows for research priority setting and project design to fill in identified knowledge gaps, which is part of the NEPA's purpose in "informing the public and the decision maker."

<u>Limited or absent scientific information</u>

- For example in the EIS'/OEIS' discussion on the EMF operations environmental impacts, it is unclear how the EIS/OEIS concludes that smalltooth sawfish and Gulf sturgeon will not be affected by the Navy's use of EMF.[46] The clarity issue is caused by the information in the sentence immediately preceding this conclusion which states that "*the effects of EMFs on smalltooth sawfish and Gulf sturgeons are unknown; however based on the findings for sensitive species sensitive to electromagnetic fields the Navy finds its use of EMF will not affect smalltooth sawfish and Gulf sturgeons and there will be no NEPA significant impacts.*"

  Moreover the EIS/OEIS is silent as to whether smalltooth sawfish and Gulf sturgeons' EMF sensitivities been studied. The EIS/OEIS only mentions the elasmobranches and flounder studies. Furthermore the EIS/OEIS is silent as to whether the studied EMF-sensitive species have certain relevant bio-characteristics sufficiently similar to

[46] Line # 6 – 12 on p. 4-53.

smalltooth sawfish and Gulf sturgeons to support the EIS'/OEIS' conclusion of no significant impact to smalltooth sawfish and Gulf sturgeons or other marine species known to inhabit the Study Area.

Additionally those species known to be sensitive to EMF are only those limited number of species that have been studied, likely those species associated with the offshore wind farm infrastructure, not the Navy's surface-mine countermeasures-testing activities within the Study Area. The EIS/OEIS does not inform the reader how many marine species have been studied, if those studied species inhabit the study area particularly where the EMF activities are likely to occur.

EPA recommends that the FEIS/FOEIS address the issues identified above.

- Another example is the EIS/OEIS section on laser operations on fish. The EIS/OEIS states that no research has been conducted on fish[47] yet concludes there will be no significant impacts to fish. An attempt is made to rationalize this finding by noting "*the duration that any given area will be radiated will be extremely short considering the majority of the platforms will be continuously moving in the test area.*" Because EPA is not and cannot be expected to be (nor the general public) familiar with Navy testing operations, it is unable to connect this statement to the determination of no significant impacts to fish, particularly since the EIS/OEIS states that fish have not been studied.[48]

  Will the platforms repeatedly traverse the same course causing repeated "radiation?" Moreover, what does the Navy mean when it says "radiated." The use of "radiated" could imply radiation harm associated with chemical degradation (nuclear), which leads to confusion since the EIS/OEIS has stated that "eye" harm is the primary concern.

  EPA recommends that the FEIS/FOEIS address the issues identified above.

- In the EIS'/OEIS' discussion on the ordnance operations impacts to fish,[49] it is unclear how the Navy has determined that fish impacts will be minor and have little effect on fish populations as a whole when no data exists on the density of fish in the Study Area and consequently it is unable to determine the quantity of fish affected. The EIS/OEIS also states that the quantity of fish affected will be small relative to the abundance of these populations in the GOM, yet provides no GOM fish population information. Furthermore in the broadest sense, all the waters of the gulf, including estuarine and freshwater areas in state waters are designated as essential fish habitat (EFH).[50] EPA defers to NOAA but has the following comments.

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[47] Section 4.3.3.4. on page 4-54 see line #1.

[48] The argument could be made that NSWC PSD has had plenty of opportunity and a NEPA responsibility to conduct these studies since its surface mine countermeasures testing operations are the lifeblood of its surface mine countermeasures program which has been in existence for a number of decades.

[49] Section 4.3.3.5 on page 4-55.

[50] See: http://galveston.ssp.nmfs.gov/research/fisheryecology/EFH/Relative/gulfwide/index.html

EFH designations reflect the need to address declining not abundant fish populations in that the purpose of designating EFHs are to protect species believed to be declining due to overfishing.

The Study Area encompasses EFH for 26 species including groupers, shrimps, cobia, corals, sargassum, mahi, amberjacks, snappers, triggerfish, mackerels, little tunny, red drum, scamp, stone crab, spiny lobster, and tile fish.[51] This information does not include all the temperate and tropical species known to the Study Area that have no EFH designation.[52] Additionally, the Gulf of Mexico Fishery Management Council has developed seven fishery management plans that affect the Study Area.

The argument in the EIS/OEIS that most species experience a large number of natural mortalities especially during early life-stages, and therefore any small level of mortality (the one remaining undefined) caused by detonations during RDT&E activities will be minor and have little effect on the population as written appears to be self-serving and not to be grounded on best available environmental science/data/information.

Furthermore, it is unclear from the EIS'/OEIS statement that test personnel have not observed any fish mortalities associated with the use of line charges or small detonations is the result of strict protocols requiring these observations be made for all testing or whether this an isolated and anecdotal piece of information. The EIS/OEIS declined to discuss this in a sufficient level of detail to facilitate meaningful analysis and to support its finding of no significant environmental impact to fish.

EPA recommends that the FEIS/FOEIS address the issues identified above.

The EIS/OEIS states "[t]*here is no information that shows there will be any effect to marine invertebrates from sonar transmissions.*[53]" This statement is unclear as to whether no studies have been done or whether studies have been done but have found no invertebrate effects. If no studies have been done, why has not NSWC PSD been studying this issue associated with their sonar operations in the Study Area during the history of their surface-mine countermeasures testing and development program?

EPA recommends that the FEIS/FOEIS address the issues identified above.

Incomplete Environmental Impacts Discussions

Concern – the EIS/OEIS fails to discuss the environmentally-relevant particulars of the various operations (e.g., the frequencies and intensities) and their potential environmental impacts. EPA recommends that the FEIS/FOEIS address this issue described above and identified in the following examples.

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[51] Section 3.4.4. on p. 3-24.
[52] P. 3-(19-20).
[53] Line #21-23, p. 4-41.

- For example, the EIS/OEIS does not discuss hours and their associated impacts of the anticipated laser operations. The EIS/OEIS states the laser-operation hours will range from 244 (no action alternative) to 1,053 hours (preferred alternative). Yet the EIS/OEIS is silent on whether the laser operations will consist of continuous 244 hour operations, or several independent and discrete operations of varying hours. Nor does the EIS/OEIS discuss where the operations will occur – nearshore or offshore habitats – the water depth ranges, etc. Will there be a seasonality component to these operations?

- Another example is the EIS section on laser operations on fish.[54] The EIS/OEIS states that none of the laser operations in any of the proposed alternatives will affect smalltooth sawfish and Gulf sturgeon because they prefer the benthic habitats on the seafloor. If the laser operations are conducted in shallow waters, perhaps the seafloor might not offer much protection to any shallow-water occupying sawfish or sturgeon.

Uncertainty

Three basic types of uncertainty exist: incomplete or imperfect mastery of available knowledge, limitations in current knowledge, and difficulties in distinguishing between the above. The environmental impacts chapter (chapter # 4) is written with more certainty and confidence than is warranted by the available science and environmental information/data it cites.

EPA recommends the FEIS/FOEIS should clearly state the limits of the available science, data, and environmental information and the limitations on the mastery of the available information regarding the environmental impacts associated with beach nourishment projects.

ESA used to Justify No Significant Impacts Findings

Findings of no significant impacts appear to based solely on whether an ESA-designated species is detrimentally impacted consistent with the ESA. NEPA is broader than the ESA, for example its scope includes non ESA-protected species and ecosystems,[55] which is outside the ESA's scope and intent. EPA recommends that the FEIS/FOEIS address this issue described above and identified in the following examples.

- For example in the EIS'/OEIS' discussion of EMF environmental impacts,[56] it essentially states the effects of EMFs on smalltooth sawfish and Gulf sturgeons are unknown; however based on the findings for sensitive species sensitive to electromagnetic fields the Navy finds its use of EMF will not affect smalltooth sawfish and Gulf sturgeon, in accordance with the ESA and there will be no NEPA significant impacts to fish associated with any of the described Alternatives.

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[54] Section 4.3.3.4. on page 4-54.

[55] One of NEPA's purposes is "to enrich the understanding of the ecological systems and natural resources important to the Nation." 42 USC § 4321.

[56] Line # 6 – 12 on p. 4-53.

Yet the body of the discussion is silent as to the impacts to the other marine species known to inhabit the Study Area, as described in the EIS'/OEIS' Chapter 3, including the known EMF-sensitive species: the elasmobranches (sharks, rays, and skates) and flounder. As written, the EIS'/OEIS' "*NEPA no finding of significant impacts*" conclusion appears to rest solely on whether the ESA-designated species, smalltooth sawfish and Gulf sturgeon, are significantly impacted as defined by the ESA.

Absence of the NMFS Biological Opinion and the LOA request

The absence of the NMFS biological opinion (BO) and request for a letter of authorization for the incidental harassment of marine animals from the EIS/OEIS is relevant the environmental impacts analysis. EPA recommends that the FEIS/FOEIS address this issue.

Environmental Information Collection as part of RDT&E testing Operations*

Similar to all federal agencies, the Department of the Navy (DON) is in the business of activities that have tremendous ramifications to the state of the Nations environment, and for DON, the global environment. The concern is that due to the nature of DON's business it does not actively encourage, and understandably so, outside monitoring and assessment of environmental impacts associated with its global-scale operations. Consequently, DON has an added burden in meeting NEPA's goals and requirements. It needs to assess its own environmental impacts and cannot rely on outside studies as no one else is in the same business as DON or is in the position to know the specifics of DON's business to be able to assess associated environmental impacts.

For example buried in Section 4.3.1.1 "Surface Operations" the EIS/OEIS states, "[n]*either regulations nor scientific literature provide criteria for determining the significance of the potential effects of the NSWC PSD activities.*[57]" This statement probably applies to all of the Proposed Action's operations. Yet, NSWC PSD has been in the surface-mine countermeasures testing and development business for decades in the Study Area and will likely to continue into the future. Where in this EIS/OEIS are its environmental studies and associated environmental impacts-type information to fulfill NEPA's EIS/OEIS goals and EIS/OEIS requirements? NSWC PSD has likely been collecting a lot of environmental operational performance information since NEPA's passage, but apparently nothing on its operational environmental impacts. It is likely no one else has the access and authority to collect this environmental impacts information in a restricted area during testing operations. EPA recommends the FEIS/FOEIS provide this operational data and experience.

[57] Line # 29-30, p. 4-39.